AWARD NUMBER: W81XWH-12-2-0109

TITLE: Telephone-Delivered Cognitive Behavioral Therapy for Chronic Pain Following Traumatic Brain Injury

PRINCIPAL INVESTIGATOR: Jeanne M. Hoffman, Ph.D.

CONTRACTING ORGANIZATION: University of Washington
Seattle, WA 98195-9472

REPORT DATE: October 2015

TYPE OF REPORT: Annual

PREPARED FOR: U.S. Army Medical Research and Materiel Command
Fort Detrick, Maryland 21702-5012

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

1. REPORT DATE	2. REPORT TYPE	3. DATES COVERED
October 2015	Annual	30 Sept 2014-29 Sept 2015

4. TITLE AND SUBTITLE
Telephone-Delivered Cognitive Behavioral Therapy for Chronic Pain Following Traumatic Brain Injury

5a. CONTRACT NUMBER
W81XWH-12-2-0109

5b. GRANT NUMBER
PT110602

5c. PROGRAM ELEMENT NUMBER

6. AUTHOR(S)
Jeanne M. Hoffman, Ph.D.

E-Mail: jeanneh@uw.edu

5d. PROJECT NUMBER

5e. TASK NUMBER

5f. WORK UNIT NUMBER

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)
University of Washington
4333 Brooklyn Ave NE
Seattle, WA 98195

8. PERFORMING ORGANIZATION REPORT NUMBER

9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES)
U.S. Army Medical Research and Materiel Command
Fort Detrick, Maryland 21702-5012

10. SPONSOR/MONITOR'S ACRONYM(S)

11. SPONSOR/MONITOR'S REPORT NUMBER(S)

12. DISTRIBUTION / AVAILABILITY STATEMENT
Approved for Public Release; Distribution Unlimited

13. SUPPLEMENTARY NOTES

14. ABSTRACT

The purpose of this study is to evaluate the efficacy of a telephone-delivered cognitive behavioral treatment (T-CBT) in Veterans with a history of traumatic brain injury (TBI) for the treatment of chronic pain in a randomized controlled trial (RCT). Specifically, the RCT will examine the immediate (at the end of treatment) and long-term (6-months from randomization) efficacy of T-CBT on average pain intensity (primary outcome), and pain interference, sleep, depression, global impression of change, and life satisfaction (secondary outcomes) relative to a telephone-delivered pain psycho-educational active control condition (T-Ed). The study uses a 2-group parallel design. The sample will include 160 OEF/OIF Veterans with a history of TBI and chronic pain recruited from the VA Puget Sound Health Care System (VAPSHCS).

Recruitment and enrollment for the study is ongoing. Despite the delays in recruitment and enrollment, we believe we will be able to achieve our enrollment goals given 1) the commitment by VAPSHCS providers to help us achieve our recruitment goals, and 2) the large number of VAPSHCS patients that we project to be eligible and willing to participate.

15. SUBJECT TERMS
Traumatic brain injury(TBI), chronic pain, Veterans, telephone-delivered treatment, cognitive behavioral treatment

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT	b. ABSTRACT	c. THIS PAGE			USAMRMC
U	U	U	UU	9	19b. TELEPHONE NUMBER *(include area code)*

Standard Form 298 (Rev. 8-98)
Prescribed by ANSI Std. Z39.18

Table of Contents

Introduction

The purpose of this study is to evaluate the efficacy of a telephone-delivered cognitive behavioral treatment (T-CBT) in Veterans with a history of traumatic brain injury (TBI) for the treatment of chronic pain in a randomized controlled trial (RCT). Specifically, the RCT will examine the immediate (at the end of treatment) and long-term (6-months from randomization) efficacy of T-CBT on average pain intensity (primary outcome), and pain interference, sleep, depression, global impression of change, and life satisfaction (secondary outcomes) relative to a telephone-delivered pain psycho-educational active control condition (T-Ed) designed to control for time, dose, attention, and other nonspecific therapeutic effects such as therapeutic alliance. The study uses a 2-group parallel design. The sample will include 160 OEF/OIF Veterans with a history of TBI and chronic pain recruited from the VA Puget Sound Health Care System (VAPSHCS).

Keywords

Traumatic Brain Injury (TBI)
Chronic Pain
Veterans
Telephone-Delivered Treatment
Cognitive Behavioral Treatment (CBT)
Randomized Controlled Trial (RCT)

Overall Project Summary

Development:

Research staff began the initial recruitment and screening process with prospective subjects who are solely recruited from the VAPSHCS shortly thereafter in the final week of June 2014.

The study PI has convened study meetings with study investigators on a bi-weekly basis as well as weekly meetings with the PI, the VA PI and key staff members to attend to pertinent recruitment and enrollment topics.

Preparation:

All steps with regards to preparation have been completed. Mr. Gertz and three VAPSHCS research staff members meet on a weekly basis to review study recruitment and enrollment and address potential issues as they have arisen.

Participant Enrollment and Data Acquisition:

Enrollment for this study began in July 2014. As of October 22, 2015 we have enrolled 101 participants from the VAPSHCS, our only recruitment site. Seven participants have been enrolled yet have not begun the treatment phase. 25 participants are participating in the study treatment phase, 21 participants have completed the treatment phase and are in the follow-up period, and 42 participants have completed participation in the study entirely. Three subjects were lost following enrollment but prior to randomization, two subjects withdrew prior to completion of

the treatment phase, and one subject withdrew from the study prior to completing the 6-month assessment period.

Recruitment and enrollment rates slowed during the 3rd quarter due to one staff member going on maternity leave early April 2015. This individual has returned to work, however. Study researchers have hired an additional staff member in May 2015, increasing the total number of staff members engaged in recruitment and enrollment to three members.

Research staff members continue with systematic medical record reviews of all patients who have been seen by VAPSHCS providers for a Traumatic Brain Injury (TBI) Comprehensive Screening. All Veterans deemed eligible based on this initial review are sent approach letters explaining the study. Research staff will also make follow-up calls to these Veterans if the Veteran does not initiate contact following the mailings.

Drs. Hoffman, Williams, and Ehde meet with clinical staff on a weekly basis to provide supervision regarding clinical matters. Mr. Gertz meets with research staff to discuss recruitment and enrollment strategies on a weekly basis. Finally, Dr. Hoffman conducts executive committee meetings on a bi-weekly basis to address issues regarding both treatment and enrollment.

Research staff attends regular clinician meetings to remind VAPSHCS clinicians about the study and its eligibility criteria.

Operations and Maintenance:
Researchers continue to submit quarterly progress reports to the Department of Defense (DoD). Researchers have obtained continuing IRB approval from both the UW and VAPSHCS IRBs and recently received continuing review approval from HRPO. Research staff members continue to maintain personnel training files. Drs. Hoffman and Williams along with Mr. Gertz continue to supervise research staff to ensure adherence to procedures.

Data Management and Analysis:
Study databases have been completed. Research staff enters study data as it is collected from participants. Mr. Barber monitors the integrity of the research data on a regular basis.

Formative Evaluation:
The study PI and VA PI developed a questionnaire to identify which data would be most relevant to stakeholders to move the intervention into practice and determination of appropriate stakeholders is being reviewed. We continue to collect relevant data during the intervention phase including number of attempts to reach each subject for treatment, time of treatment, number of no-shows/rescheduled appointments, etc.

We have now hired a 3rd clinician who has training as an MSW and have begun to develop training materials that can be used going forward with possible implementation of the intervention.

We did convene an advisory group made up of VA providers to assist with determining additional strategies to increase enrollment and to discuss treatment adherence. Providers included those in telemedicine, psychiatry, and our partners within the Polytrauma Clinic. We were given suggestions for additional enrollment capability as well as reassurance of the difficulty that others have had in 1) enrollment into other studies within the VA, and 2) the high no-show rate within clinics at the VA which exceed our current adherence rate to the telephone intervention.

Problems Encountered:

Considerable effort and time were expended to submit the VA IRB application. We had initially anticipated that the length of time required for submission caused a delay in subject recruitment and enrollment by approximately 1-2 months. However, additional delays were encountered when it took the VAPSHCS regulatory committees a considerable amount of time to review and approve the application (study personnel submitted the application in early January, and received full approval from the R&D committee August 22, 2013). We anticipated at that time that the length of time that elapsed for full VAPSHCS approval (over eight months) caused a delay in subject recruitment and enrollment by an additional 3-4 months.

After receiving approval from the VAPSHCS IRB and regulatory committee, we submitted the HRPO IRB application August 8, 2013. We first received notice October 8, 2013 that our application underwent initial administrative review. On October 10, 2013 we addressed the items raised in the initial review, yet did not hear back from HRPO staff regarding any substantive steps taken to complete the approval process for a considerable amount of time. We were later told that a personnel change at HRPO had occurred and our application was not assigned to an alternate individual. Given the delays in review, there was also some confusion regarding the versions of the protocol document that was submitted to HRPO. It took until April 9, 2014 for the program manager, Ms. Kristen Katopol, to inform us that the approval authority at HRPO had given us approval to submit the revised protocol document to both the UW and VAPSHCS IRBs for approval. We received approval for the study protocol April 25, 2014 and May 14, 2014 from the UW and VAPSHCS IRBs, respectively. We then finally received full HRPO approval June 13, 2014 (10 months after submission).

We believe the significant delay in getting HRPO approval caused significant delays in study recruitment and enrollment. We anticipate that the length of time that elapsed for full HRPO approval (10 months) has caused a delay in subject recruitment and enrollment by an additional 8-9 months, such that we are 15 months behind on recruitment and enrollment.

As mentioned above, recruitment and enrollment rates during the 3rd quarter slowed due to one staff member going on maternity leave early April 2015.

We believe we will still be able to achieve our enrollment goals despite these delays given a) the research team consists of members with extensive experience in subject recruitment, b) the research team hired an outstanding staff member who is helping with recruitment and enrollment, c) the expressed commitment by VAPSHCS providers to help study personnel achieve their recruitment goals, and d) the large number of patients within the VAPSHCS that we project to be eligible and willing to participate.

Key Research Accomplishments

Recruitment and enrollment for the study continues despite the considerable delays in obtaining IRB approval from both the VAPSHCS and HRPO.

Conclusion

We plan to make the following progress in the 1st quarter of the 4th year of this research study.

Participant Enrollment/Data Acquisition:

Study personnel plan to recruit and enroll an average of about 12 subjects per month to offset study delays. Further, study personnel will continue to collect study data from subjects both in-person and via telephone. The study PI and investigators will provide ongoing supervision to research and clinical staff, as well as facilitate regular meetings with research staff and investigators to address enrollment issues.

Research staff members will continue to conduct systematic medical record reviews of all patients who have been seen by VAPSHCS providers for a TBI Comprehensive Screening. We plan to send approach letters to approximately 60 Veterans each month during the next reporting period.

As mentioned above, research staff attends regular clinician meetings to remind VAPSHCS clinicians about the study and its eligibility criteria. Dr. Williams plans to present study progress at regular in-service meetings on a regular basis to elicit clinician referrals.

Operations and Maintenance:

Dr. Hoffman, Dr. Williams and Mr. Gertz will continue to monitor study personnel performance to ensure adherence to procedures. In addition, Drs. Hoffman, Williams and Ehde will continue to conduct weekly meetings with study clinicians to address any clinical issues that may arise during treatment.

Data Management and Analysis:

Study personnel will continue to enter data as it is collected and conduct routine data checking.

Formative Evaluation:
The study PI and study personnel plan to continue to consult with advisory partners as needed for ongoing study assistance. In addition, we will continue to move forward in determining factors related to implementation.

Publications, Abstracts and Presentations

The following paper was developed by study personnel using secondary data analyses, but relevant for the current study:

Sawyer, K, Bell, KR, Ehde, D, Temkin, N, Dikmen, N, Williams, RM, Barber, J, Dillworth, T, & Hoffman, JM. (2015). A longitudinal study of headache trajectories in the year following mild TBI: Relationship to PTSD symptoms. Archives of Physical Medicine and Rehabilitation: pii: S0003-9993(15)00589-4. doi:10.1016/j.apmr.2015.07.006.

Inventions, Patents and Licenses
None to report.

Reportable Outcomes
None to report.

Other Achievements
None to report.

References
None

Appendices

We have included a Quad Chart for this particular study as requested by the CDMRP.

Telephone-Delivered Cognitive Behavioral Therapy for Chronic Pain Following Traumatic Brain Injury

PI: Jeanne M. Hoffman, Ph.D. **Org:** University of Washington **Award Amount:** $3,085,185

Log#: PT110602, Applied Neurotrauma Research Award with Clinical Trial

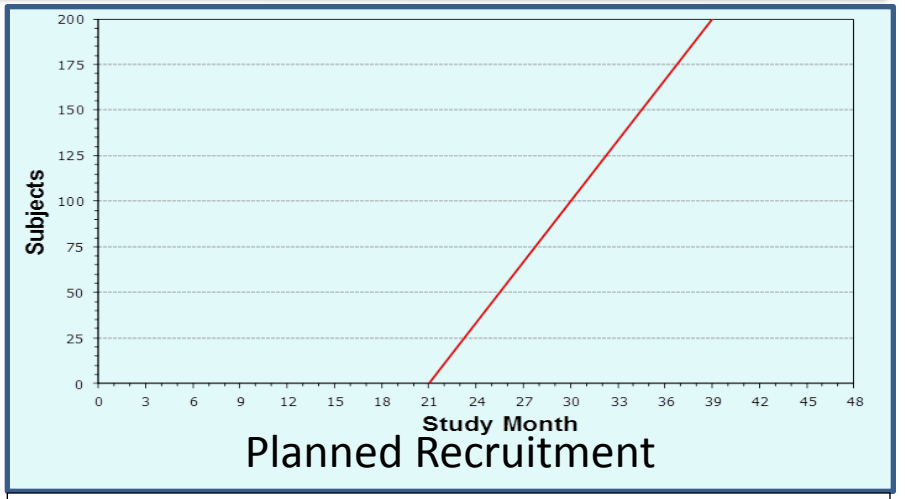
Award # W81XWH-12-2-0109

Study/Product Aim(s)

- We will evaluate the efficacy of telephone-delivered cognitive behavioral therapy (T-CBT) for reducing average pain intensity relative to telephone-delivered education intervention (T-Ed) in Veterans with a history of TBI.
- We will determine the efficacy of T-CBT relative to T-Ed in reducing pain interference, sleep problems, and depression, as well as improving global impression of change and life satisfaction.
- We will determine whether treatment effects are maintained 6 months after randomization.
- We will conduct a formative evaluation to identify key factors relevant to future dissemination and implementation of the intervention into the VA.

Approach

The sample will include 160 OEF/OIF/OND Veterans with a history of TBI and chronic pain recruited from the VA Puget Sound Health Care System (VAPSHCS). Participants will be randomized to either T-CBT or T-Ed (2 group parallel design). Each treatment will consist of eight 60-minute sessions conducted over the telephone over 8-12 weeks. Information about pain and the other commonly co-occurring conditions described above will be collected before, mid treatment, post treatment and at 6 months following randomization.



Planned Recruitment

Accomplishment: Investigators have accomplished all preparation and development components of the study. We began participant recruitment in Month 21.

Timeline and Cost

Activities CY	13	14	15	16
IRB approval, finalize protocol, Intervention manual, develop databases				
Participant Enrollment/Data Acquisition				
Formative Evaluation				
Publication/Dissemination				
Estimated Total Budget ($K)	$666	$874	$889	$656

Updated: 22/10/2015

Goals/Milestones

CY13 Goal – Development and Preparation

☑ IRB Approval

☑ Finalize study protocol, intervention manual, databases

CY14 Goals – Participant Enrollment/ Data Acquisition

☑ Enroll 75 subjects

☑ Assess important factors that contribute to formative evaluation

CY15 Goal – Participant Enrollment/ Formative Evaluation

☑ Enroll 100 subjects

☐Collect data current practice-formative evaluation

CY16 Goal – Participant Enrollment/ Formative Evaluation/Dissemination

☐ Complete enrollment and data acquisition (total of 200 enrolled subjects)

☐ Produce manual and training program- formative evaluation

☐ Disseminate study findings in primary paper

Comments/Challenges/Issues/Concerns

- Participant enrollment delayed 12-15 months by prolonged VAPSHCS IRB/HRPO approval process.

Budget Expenditure to Date (Through 30/09/2015)

Projected Expenditure: $2,424,046

Actual Expenditure: $1,889,682